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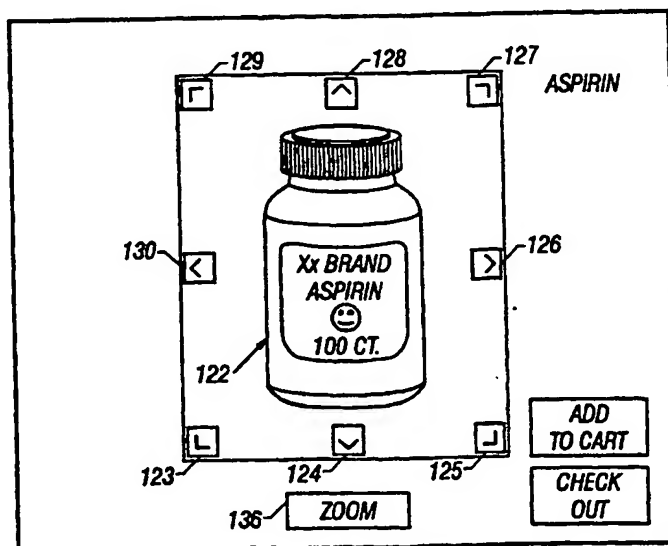
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(54) Title: ENHANCING TOUCH AND FEEL ON THE INTERNET



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(57) Abstract: A system for enabling touch and feel over the internet provides a three-dimensional (122) representation of a good being sold (100), that three-dimensional representation being viewable from a number of different directions (136). The good being sold is in a package and the package is displayed from the number of different direction.

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ENHANCING TOUCH AND FEEL ON THE INTERNET

This application claims priority from Provisional
5 Application Serial No. 60/155,543, filed on September 22,
1999.

The present application relates to improvements in the
user interface that enables enhancing simulation of real
touch and feel over a remote information server.

10 More specifically, the present application describes
enhancing the realism of product descriptions over the
Internet, to make Internet shopping more like real life
shopping.

15 Background

Shopping over the Internet has become very popular. A
primary reason is convenience. A user can sit at their
computer and shop from a number of different Internet web
sites. Without physically moving, the user can select from
20 different items in different sites. The prices are often
lower than, or at least comparable to, what one would pay
in retail stores. The shopping is very convenient.

Internet browsing provides a limited amount of information about the product. In a store, if a user wants to select between multiple items, the user consults the packaging that accompanies the product. They can read the
5 packages, look at information on the package, and touch the package. The packaging often sells the product. Large amounts of money are spent on packaging for the products.

Internet web pages often reflect minimal information about the product packaging. Hence, shopping on the
10 Internet is most effective when the user already knows what they want.

Software such as Apple Quicktime VR (TM) allows some limited pseudo three-dimensional viewing.

15 Summary

The present application teaches a new paradigm of selling over the Internet.

20 Brief Description of the Drawings

These and other aspects will now be described in detail with reference to the accompanying drawings, wherein:

Figure 1A shows a screen shot of an exemplary web page for selling a product;

Figures 1B and 1C show views of the simulated 3D product, respectively from the front and the rear;

5 Figure 1D shows an image formed of varying resolution portions;

Figure 2 shows a flowchart of operation of the first embodiment;

Figure 3A and 3B show different vantage points used to
10 view an object to enable simulated three dimensional view;

Figure 3C shows a flowchart of operation with these simulated viewpoints;

Figures 4A and 4B show a book display embodiment, showing the book from front and rear respectively;

15 Figure 4C shows the inside of the book; and

Figure 5 shows a flowchart of operation of this embodiment.

Description of the Preferred Embodiment

20 According to the present application, a user interface is described which provides the same information to a user that could be provided if the user could physically pick up and handle the product.

According to one aspect of the present application, the entire product package is rendered in three dimensions. The rendering includes the shape and color of the product from at least a plurality of different angles, and
5 specifically from at least enough angles to enable reading each label on the package. The user interface includes controls that enable moving the product within the user interface, in a way that enables viewing from each of these different angles.

10 One special application of this system is for use in books, music and videos. Bookstores are used by people who browse through the book selection, reading pages, looking at pictures, and trying to get the feel of the different books. The present system teaches an interface to the book
15 contents that enables viewing the outside portion of the book, specified pages of the book, and leafing through random pages of the book. An embodiment limits the amount of reading that the user can do, to prevent the entire book from simply being read on line.

20 Another aspect of the above applies the same kind of operation to videos and music. The liner notes can be perused. and the packaging of the video/music element can be viewed from different angles.

According to one aspect of this system, a special extension to hypertext markup language is defined. A hypertext mark up language extension/object is defined which can be hold the information that is contained in the
5 three dimensions of the package being viewed. Another aspect allows the information to be used within other programs, e.g., Powerpoint, or an executable file.

A graduated view system which displays different amounts of information while loading additional
10 information. The system starts by displaying a two-dimensional image, or "splash". The two-dimensional image itself is formed in a graduated manner, using a low resolution image, which is progressively increased in resolution as more information is received. The two
15 dimensional image is shown while the three-dimensional image information is loading.

The final image can also be graduated. It can include lower resolution portions which show the ornamental portions of the object, and higher-resolution portions
20 which show the readable portions of the object. In one embodiment, the higher-resolution portions are formed from ASCII text.

According to another aspect, an HTML extension is defined which enables the three dimensional viewing.

Another aspect defines a reduced data set for the system described above which enables separate views from
5 different angles to simulate three dimensional viewing without actually using a continuous three dimensional view.

Another aspect teaches a new paradigm for selling products in which the products are exhibited on the Internet using information that is obtained from a three-
10 dimensional view of the product that includes at least enough resolution to read each of a plurality of labels of the product, and to see the shape of the product from each of a plurality of different views. Another part of the paradigm has the seller of the product providing electronic
15 images representing packaging information for the product. The web sites that sell the product can use that packaging information as parts of their website. Like stores, where every store gets a package for the product from the vendor, each Internet seller gets an electronic package for their
20 product from the vendor.

The preferred embodiment will be described with reference to Figures 1 which shows an exemplary web page using the present system. While the preferred embodiment

describes this system being used on the Internet, it should be understood that this can be used on any remote information server that is used to sell products.

The product shown in this embodiment is a bottle of aspirin. The bottle of aspirin has a specified three-dimensional shape. The manufacturer of the aspirin produces the bottle and the packaging for the product. In this embodiment, the manufacturer also provides two different files, one being a progressively renderable two-dimensional JPEG image of the bottle as seen from the front. Another image is a three-dimensional rendering of the bottle. Such information can be produced using three-dimensional AUTOCAD (TM), or some other three-dimensional drawing program. The three dimensional rendering that is produced has at least sufficient resolution to enable reading all of the labels on the product. In Figure 1A, a screen shown at an initial time is shown. A normal sales screen 100 includes the general description of the product, the price, and ability to "add to cart" and "Check out". Figure 1A also shows a image portion 110. The whole page -- image portion 110 and the sales screen 100, are defined at step 200. The sales screen is defined using HTML code. The image portion is defined within the HTML code also and

this can be displayed as a rectangle as shown in Figure 1A.

Figure 1A shows a progressively-rendered two dimensional JPEG being displayed as 112. This is shown in the Figure 2 flowchart. At step 202, the display of the progressively rendered JPEG begins. First the lowest resolution version is displayed at step 202. After the lowest resolution version is on the screen, the 3D image begins loading at step 204, and at the same time more information about the two-dimensional JPEG is loaded at 10 206. The JPEG resolution is increased by the additional information.

When the 3D image is completely loaded, a new image portion 110 is displayed at 208 that shows the information in the 3D image.

15 Figure 1B shows this image portion including a simulated three-dimensional view of the product 122. A plurality of movement keys 123 - 130 define different movement directions. Each enables rotating the view of the product in the direction defined by the arrow of the key.

20 Figure 1B shows the front view. By manipulating the movement keys, the rear of the product 122 can be viewed. Figure 1C shows the rear view.

Both of these views have sufficient size and resolution to allow the labels to be clearly visible and preferably large enough to be read. The user can also rotate the view to obtain different views -- a side view,
5 an edge view, and views of different labels.

The user can also actuate the zoom-in button 136 to zoom-in on a portion of the product. The zoom can be centered on the readable label so that the user can obtain a larger picture of the label to read the information from
10 that picture. Figure 1C shows a slightly zoomed-in version.

Another aspect uses graded resolution for the image. The ornamental part of the packaging can be displayed with different resolution than the readable parts, e.g., the labels. In one embodiment, the actual product is formed of
15 different zones as shown in Figure 1D.

Each zone has a different kind of information, e.g., a highly compressed JPEG image portion 180 for the ornamental part, a less compressed JPEG portion 182 for more important parts, and finer resolution parts 184. The fine resolution
20 part 184 can be ASCII or rich text format type textual information.

It should be appreciated from the above that the user can look at the product from any desired angle. The user

can read all of the labels on the product, and can see packaging from different angles. In the case of a boxed product, the user can see the box from all different angles including front, back, top and sides. Another movement key
5 can enable the user virtual opening of the box to see the product inside.

According to a preferred mode of carrying out this system, the entire three-dimensional image loads until it is completely loaded, and then it is displayed. The three-
10 dimensional image is preferably compressed using lossy compression to minimize the size of the image.

In an alternative mode, only the view being called for is loaded. The remainder of the portions of the three-dimensional views are loaded in the background, or only
15 loaded when requested.

Another embodiment of this system defines an extension to hypertext mark up language which simulates the three-dimensional representation of the product/packaging using a reduced data set. The true 3D image stores real 3D
20 information that can be manipulated to see the object from any angle or view. In this HTML extension, in contrast, it is recognized that most objects can be looked at as being like a cube. The cube can be viewed from points 1-6 shown

in Figure 3A -- front, back; top, bottom; left, right.

Additional vantage points may be desirable to allow viewing from angles. 20 additional points are shown in Figure 3B. Therefore, 26 discrete images provides all the
5 basic views that could simulate a three-dimensional view of the product.

A reduced data set view can be formed from only the six basic views in Figure 3A, viewing the object from only the points 1 through 6 shown in Figure 3A. An even further
10 reduced data set can view the object only from front and back views without allowing viewing front, back, top and bottom.

Other combinations of these sets are also possible.

According to this system, the product is first
15 displayed from a default view in the product screen 100. The default view is one in which the front of the product, for example, is viewed. The image for each of the views is lossy-compressed using JPEG or MPEG compression. This default image loads first, as shown in step 350 in Figure
20 3C. After the default image is loaded, the other n images, e.g. 21 other images, begin loading in the background. The HTML extension also displays arrow keys which enable rotation of the image and viewing the image from other

vantage points. Depending on the number of images, each actuation of the arrow keys will select a different amount of rotation. The rotation is in actuality effected by displaying a different image.

5 The arrows are detected in step 352, and used to select a different image. The next image is loaded. For example, if the default view is loaded (front in Figure 3A), then an arrow to the left selects view 17 in Figure 3B. An arrow left/down (arrow 123 in Figure 1B) selects
10 view 5 in Figure 3B. Each arrow operation can be used in conjunction with the map of views to select the next view for viewing.

 This HTML code can be executed by loading the first JPEG and loading the remainder in the background, or can
15 load the views only when requested.

 This system allows the web site operator to select the amount of information they want to present. The amount of change from the arrows depends on the number of images that have been loaded. A reduced data set can be provided, or
20 more information to show more about the product packaging. The smallest data set that contemplated is $n=2$ which would show the front and the back of the product. As in the other embodiments, preferably enough information is

provided such that each of the labels on the product can be read, either directly, or using the zoom function. A particularly preferred form of compression uses an adaptable lossy compression where parts of the product are
5 compressed with a first compression ratio, and the parts containing the label are stored in a different way. For example, the label could have more resolution, or be stored in text form.

The concept of touch and feel is quite prevalent in a
10 bookstore. Many bookstores are common on the web, such as BarnesandNoble.com and Amazon.com. These provide very convenient browsing for an individual who knows what book they want to buy. The individual can often see a picture of the cover of the book, and read certain reviews about
15 the book. However, the amount of data is often limited. Moreover, the data that is put on the website is typically data that is decided by the website designers, rather than the publishers of the book. The present paradigm allows those who package the book to decide what the book should
20 look like, and what a buyer should see when they are thinking about buying the book.

In bookstores, readers can often sit and look at the books or even read from parts of the books. A user with

enough determination can sit and read a whole book.

Bookstores operate based on the assumption that most people will not read all books in that way. However, it enhances the experience of the bookstore. It allows the user to
5 decide if they like the book or not.

The present embodiment teaches a remote information server sales paradigm, which starts by obtaining a digital image of at least parts of the book. Those digital images could be supplied by the publisher or designer and then
10 used to provide information on the book to people reading the book. This allows the user to read parts of the book.

A problem would exist, however, if the entire book was freely available. In that case, any user could download the whole book and then read it on their computer at their
15 leisure. Accordingly, the present system teaches limits on the amount of reading that can be done. A limit is defined that limits the amount of reading that can be done. The amount of reading is stored in a file indicating the user's activity, e.g., a "cookie". The cookie can expire or
20 persist, as described herein. The cookie can be stored on the information server, or on the user's home computer. If the cookie expires, then additional reading can be done later. Another embodiment defines total limits, where the

user is limited in the amount that they can read any title, and the cookie does not expire.

The present system also facilitates touch and feel like in the first embodiment. However, the touch and feel is modified for use in reading a book. A reader of a book looking at the exterior of the book needs only to see the front cover, back cover and spine. There is no need to see the top, bottom or other edges that do not typically contain viewed information. In addition, certain information is often printed on insides of the covers, on, for example, the liner notes. The book is virtually openable to read those inside portions. According to this embodiment, at least the covers, the liner notes and biographic/informational notes, and the table of contents, if any are provided as digital images.

A front view of the book as displayed on the web browser is shown in Figure 4A. The view includes the front cover of the book showing an accurate depiction of the look of the book including the title, and artwork. The view has a resolution that is sufficient to enable the printing on the book to be read by a viewer. A number of additional manipulation keys are also defined to change the view of the book that is seen by a viewer. A first

manipulation key 402 defines turning over the book. When the cursor is placed over this key for about 2 seconds, a small text item, a "screen tip", is displayed indicating "turn the book over". If that key is depressed, the view
5 changes to the view shown in Figure 4B which shows the book from the back. Again, the colors and artwork of the book are accurately depicted. The printed portion of the book is displayed in a manner enabling that printed portion to be accurately read. As in the previous embodiments, this
10 can use a graded resolution system, that provides more resolution for the readable parts of the book than is provided for the ornamental parts of the book.

An "open the book" indicia is also shown as element 506 in both the front and rear views shown in Figure 4A and
15 4B respectively. When the open book is actuated, the book is virtually opened. Clicking the open in Figure 4A yields the screen shown in Figure 4C which shows the first two printed pages of the book. A "zoom" function changes the operation to show only a single printed page, with enhanced
20 detail. Clicking the open in Figure 4B yields an analogous operation of opening from the rear of the book, exactly as the book would be opened if it were placed from the rear. This operation is not shown, but would yield the last two

pages of the book. The front pages and rear pages of the book often include liner notes about the book, general information about the book or its author, pictures, and the like. One or more than one page of this information can be
5 provided.

Two indicia 422 and 424 are also displayed respectively representing page forward and page backward. The page forward advances the open page by one sheet, much as it would look if the page were turned on a book. In
10 the dual page display of Figure 4C, this would be like paging forward in the book, to show two new pages. Page back 424 goes back by one sheet.

Note that the move keys are always shown as arrow keys. These keys change meaning based on context, but
15 always mean that movement in some direction will be carried out.

Each open page enables reading the entire amount of print on the page. There may be no limit set for retrieval of certain pages such as liner notes, pictures and
20 biographies, table of contents and indices. However, for actual text, some predefined limit on total new page requests can be defined. The user is allowed to read, for example, 20 pages out of the entire book. Each time a page

that has a certain data type loads, it executes the flowchart of Figure 5. A next page operation at 500 first detects if a new page is being requested, at 502. If so, a count is incremented at 504. When the counter reaches a
5 specified value detected at 506, e.g. 20 times, further requests are prohibited. The counter can be present in a cookie, and the cookie can be reset, for example, each 24 hour period. This enables the user to come back a day later and look at other pages in the same book. If the
10 limit is not exceeded, then the page is fetched at 508.

Just like being in a real bookstore -- with enough patience and ingenuity, the entire book can be read. However, at any one sitting, the user can select a certain number of pages to read. For instance, the limit can also
15 be set to only allow certain pages to be read, such as the first chapter only.

Right clicking on any of the images brings up a context menu which enables the different possible operation, e.g., close the book, a go-to dialog enabling
20 changing to a specified page in the book and other navigation items.

Another modification describes allowing the limits on the book reading to be lifted by payment of a fee. In this

embodiment, a fee, e.g. a book reading fee, could be charged for allowing the user to read the entire book. After paying this fee, the user gets unrestricted access to the whole book. The user can read the whole book in one or
5 many sessions. The cookie can also store a bookmark, so that the user can return to their computer during a later session, and take up reading where they left off.

This embodiment has described reading books. However, these techniques can also be used for any other system in
10 which the merchandise can be read. This can be used with music such as Cds, videos, etc. In those cases, the entire stored information can be the inside and outside of the covers, and the liner notes that go along with the music, e.g., length of songs, band members, song lyrics,
15 etc.

Other embodiments are within the disclosed modes. For example, the present application is described as being used with HTML over the Internet. However, it could be used with any remote information server, using any programming
20 language. For example, this could be used over a modem or other information line that is dialed up or connected point-to-point. The screens described herein could be compiled into, for example, an executable file that is

downloaded with an instruction to execute upon receipt.
Then, the file is executed to allow viewing the
merchandise. The limits described herein in the "book
reading" embodiment could be compiled as part of the code.

- 5 Also, like in the embodiment, the whole book could be
downloaded, and only part of it available for viewing. The
rest would be viewable only after paying a fee. The rest
could be, for example, encrypted, and the user is given the
decryption code after paying the fee.

- 10 The embodiment has described images being used to
represent the items. However, it should be understood that
other forms are possible.

What is claimed is:

1. A method, comprising:

5 sending over a network from a server computer to a
client computer, information indicative of an image to be
displayed on said client computer, said sending comprising
first sending a first, reduced resolution version of said
information and second sending a second, improved
- resolution version representing three-dimensional
10 information;

first displaying, on said client computer, said first
information;

loading said second information over said network
while said first information is being displayed; and
15 after said second information is loaded, second
displaying said second information.

2. A method as in claim 1, wherein said second
displaying said second information replaces a display of
said first information.

20

3. A method as in claim 1, wherein said first information is a two-dimensional image, and said second information is a three-dimensional image.

4. A method as in claim 1, wherein said first
5 information is a progressively renderable image.

5. A method as in claim 1, wherein said information is information indicative of an image of a product being displayed.

6. A method as in claim 1, wherein said first image
10 is a two-dimensional image, and said first displaying includes first displaying a lower resolution version of said two-dimensional image, and subsequently increasing a resolution of the two-dimensional image using additional information.

15 7. A method as in claim 6, wherein begins said loading of said second information after said lower resolution version is displayed.

8. A method as in claim 5, wherein said second image has sufficient resolution to enable reading all labels on a product represented by the image, from all angles.

9. A method as in claim 8, further comprising
5 enabling said three-dimensional image represented by said second information to be rotated in any desired direction.

10. A method as in claim 5, wherein each view of the three-dimensional image has sufficient size and resolution to allow labels on the product to be read.

10 11. A method as in claim 5, wherein the second, three-dimensional image has graded resolution, wherein one part of the second information has a first resolution, and another part of the second information has a second resolution.

15 12. A method as in claim 11, wherein said another part is a higher resolution, used for reading labels on the product.

13. A method as in claim 11, wherein labels on the product are formed of text information.

14. A method as in claim 1, wherein said second information is a complete three-dimensional rendering.

15. A method as in claim 1, wherein said second information is a reduced data set three-dimensional
5 rendering formed of a plurality of discrete images from different views.

16. A method as in claim 15, wherein said views include front, back, top, bottom, left and right.

17. A method as in claim 15, wherein said second
10 displaying second information comprises first displaying a default discrete image, and while said default two-dimensional image is displayed, loading other discrete images in the background.

18. A method as in claim 5, wherein said product is a
15 bottle.

19. A method as in claim 1, wherein said product is a book.

20. A method as in claim 1, wherein said image is an image of an entertainment media.

21. A method of selling goods over a remote information server, comprising:

displaying, on a terminal of the remote information server, a simulated three-dimensional representation of a
5 good to be sold;

controlling a direction of viewing the good from multiple different directions, at least one of said directions including readable information, and wherein said displaying operates with sufficient resolution to enable
10 reading the information from the good.

22. A method as in claim 21 wherein said simulated three-dimensional representation is a complete three-dimensional representation which can be moved continuously.

23. A method as in claim 21 wherein said simulated
15 three-dimensional representation includes a plurality of different discrete representations.

24. A method as in claim 21 wherein said image of the good includes a first resolution portion including textural information thereon at a first resolution suitable for
20 reading, and a second portion having information thereon at a different resolution.

25. A method as in claim 21 further comprising displaying the information on the remote information server by first displaying a low resolution version while loading the higher resolution version in the background.

5 26. A method as in claim 21 wherein said remote information server is the Internet.

27. A method as in claim 21 where in said good is a book and further comprising controls enabling reading at least a cover and specified pages of said book.

10 28. A method, comprising:
obtaining an product to sell;
obtaining electronic packaging information associated with said product to sell, along with said product; and
displaying said object over a remote information
15 server, or displaying said electronic packaging information associated with said product.

29. A method as in claim 28, wherein said remote information server is the Internet.

30. A method as in claim 29, wherein said electronic packaging information includes at least a shape of the overall package for the product.

31. A method as in claim 29, wherein said electronic
5 packaging includes at least readable labels for the product.

32. A method as in claim 31, wherein said product is a product which is sold in a bottle.

33. A method as in claim 31, wherein said product is
10 entertainment media, and said labels includes liner notes from the entertainment media.

34. A method as in claim 31, wherein said product is a book, and said labels include at least liner notes of the book.

15 35. A method comprising:
detecting a request from a user on a client connected to a network for more information about a specified product;
responsive to said request, sending first information

about said product to said client, said first information including a reduced data set indicative of data from which a first image of said product can be viewed;

causing said client to display first image;

5 while said client is displaying said first image, sending said client additional information indicative of a simulated three-dimensional view of said product; and subsequently displaying said three-dimensional view.

36. A method as in claim 35, further comprising
10 subsequently allowing a user at the client to view the product from different perspectives.

37. A method as in claim 36, wherein the product is an product that comes in a bottle.

38. A method as in claim 36, wherein the product is a
15 book.

39. A method as in claim 36, wherein the product is an entertainment medium.

40. A method, comprising:
forming a three-dimensional representation of an

object in graded resolution in which one part of the has
representation more resolution than another part of the
representation;

5 sending said graded resolution representation over a
network to a client; and

displaying said graded resolution image at said client
site.

41. A method as in claim 40, wherein said object is a
product, and a label of the product has a different
10 resolution than other parts of the product.

42. A method as in claim 41, wherein said label has a
higher resolution.

43. A method as in claim 42, wherein said label is
represented by text indicative of the printed information
15 on the label.

44. A method as in claim 40, wherein said network is
the Internet.

45. A method as in claim 44, wherein labels are formed with a higher resolution than at least one other part of the image.

46. A method as in claim 40, wherein the object
5 representation is formed of different zones, each having a different kind of information.

47. A method as in claim 46, wherein information on a readable portion of said object is in a format which includes text, and a look of the text.

10 48. A method as in claim 40, further comprising enabling the object to be rotated on the client.

49. A method as in claim 48, wherein said representation includes both two-dimensional and three-dimensional information.

15 50. A method, comprising:

obtaining information including an image of both a product, and an outer packaging that is separate from the product;

sending said information from a server of a network to a client of the network; and

at the client of the network, allowing the user to view said outer packaging, and also to virtually remove
5 said outer packaging to view said product.

51. A method as in claim 50, wherein said outer packaging is a three-dimensional representation of a box covering the product, and said inner packaging is the product itself.

10 52. A method as in claim 51, further comprising virtually opening the box.

53. A method as in claim 51, further comprising displaying a control enabling opening the box to reveal the product inside.

15 54. A method as in claim 50, wherein said information is three-dimensional image information comprising a three-dimensional view of the product and the box.

55. A method as in claim 50, wherein said product information comprises a plurality of discrete two-

dimensional views collectively forming a simulated three-dimensional view.

56. A method as in claim 55, wherein a current view is loaded at a first time, and other views are loaded at a
5 second time.

57. A method as in claim 56, wherein said second time is in the background while the current view is being displayed.

58. A method as in claim 56, wherein said second time
10 is when requested.

59. A method as in claim 50, wherein said network is the Internet.

60. A method as in claim 50, further comprising displaying by first loading a reduced resolution image,
15 displaying said reduced resolution image, and then loading an increased resolution image.

61. A method as in claim 60, wherein said reduced resolution image is a two-dimensional representation, and said increased resolution image is a three-dimensional image.

5 62. A method of displaying a simulated three-dimensional image, comprising:

first, obtaining a simulated three-dimensional representation of an object, which represents the object from multiple points of view, each of said multiple points
10 of view being a discrete representation of the object;

sending a first of said discrete images over a network to a client of the network, and displaying said discrete image on said client of the network;

detecting a request for a different view on a client
15 of the network; and

displaying said different view.

63. A method as in claim 62, further comprising loading other discrete views in the background, while the first view is being displayed.

20 64. A method as in claim 62, further comprising loading an additional view when requested.

65. A method as in claim 62, wherein each of said views comprise compressed image versions.

66. A method as in claim 62, wherein there are n images representing different views from different discrete
5 angles, further comprising loading a default image first, displaying said default image, and, after the default image is loaded, loading the other n-1 images in the background.

67. A method as in claim 66, further comprising displaying, on the client, a rotation requesting key.

10 68. A method as in claim 67, further comprising:
detecting a request for rotation;
determining a different image which would be seen
based
on the requested rotation; and
15 displaying said different image responsive to the request.

69. A method as in claim 62, wherein the representation is product packaging.

70. A method as in claim 69, wherein the network is the internet.

71. A method as in claim 69, wherein the product is a book.

5 72. A method as in claim 69, wherein the product is a product in a bottle.

73. A method as in claim 62, further comprising determining different parts of the packaging, storing an image of the first part of the packaging using a first
10 compression technique and storing an image of a second part of the packaging using a second compression technique.

74. A method comprising:
obtaining a plurality of images representing information about contents of a book, at least some of said
15 images including readable information;

detecting a request for specific book information from a client, over a network;

determining a previous number of requests from said client about said book; and
20 sending said information to said client.

75. A method as in claim 74, further comprising determining if said number of requests is greater than a predetermined number, and sending said information only if said number is not greater than said predetermined number.

5 76. A method as in claim 74, wherein said information comprises images of a jacket of the book, and images of text on the jacket of the book.

77. A method as in claim 76, wherein said information further comprises information about pages of the book.

10 78. A method as in claim 74, wherein said information on pages of the book includes text information.

79. A method as in claim 74, wherein one of said images comprises multiple zones of information including a first zone of decorative information and a second zone of
15 readable information, said first and second zones being stored in different ways.

80. A method as in claim 79, wherein said second zone of readable information is stored as text.

81. A method as in claim 79, wherein said first zone of decorative information is stored as a compressed image.

82. A method as in claim 75, wherein said network is the internet.

5 83. A method, comprising:

in a server of a network, storing a plurality of images representing pages of a book, said images stored with a resolution effective to enable said book to be read; and

10 responsive to a request over the network, sending one of said images to a remote node.

84. A method as in claim 83, wherein said network is the internet.

85. A method as in claim 84, further comprising
15 determining if the request for pages exceeds a certain threshold, and sending said information only if said threshold is not exceeded.

86. A method as in claim 85, wherein said images are classified according to whether they count towards said

threshold, and incrementing a counter when an image that counts towards said threshold is requested.

87. A method as in claim 85 wherein said determining comprises storing information indicative of an amount of
5 reading into a computer file.

88. A method as in claim 87 wherein said computer file is a cookie.

89. A method as in claim 87 wherein said computer file is persistent.

10 90. A method as in claim 87 wherein said computer file expires after a predetermined time.

91. A method comprising:
receiving, at a client of a network, information about which of a specified plurality of images to be displayed,
15 each of specified plurality of images showing textual information and at least a plurality of said images showing non-textual information, said textual information representative of contents of an entertainment media; and
displaying said images responsive to said requests.

20

92. A method as in claim 91 wherein said information media is a book.

93. A method as in claim 91 wherein one of said images includes liner notes.

5 94. A method as in claim 91 wherein said specified images include a front, a back cover, a spine, and liner notes.

95. A method as in claim 94 wherein said images do not include an image of a top edge of the book and an image
10 of a bottom edge of the book.

96. A method as in claim 92 further comprising displaying a screen tip, indicating what the reaction will be to a specified operation.

97. A method as in claim 92 further comprising
15 commanding an opening of the book to see an inside of the book.

98. A method as in claim 91 wherein each of said images use a graded resolution, which provides readable resolution for readable parts and a different resolution
20 for non-readable parts.

99. A method as in claim 91 wherein said readable parts are in a text format and said different parts are in an image format.

100. A method as in claim 91 further comprising
5 displaying keys which enable moving a position of viewing.

101. A method as in claim 100 wherein said keys change meaning depending on their position.

102. A method as in claim 91 further comprising
detecting a number of pages that have been read, and
10 limiting use to said number of pages.

103. A method as in claim 102 further comprising
detecting a type of page which is being requested, and
limiting use of only a specified type page.

104. A method as in claim 91 wherein said network is
15 the Internet.

105. A method of reading a book over the Internet,
comprising:

requesting a page of a book on a client of the
Internet;

determining, in a server of the Internet, if more than
a specified number of pages of said book have been
requested by a specified user; and

5 sending said page only if the specified number of
pages does not exceed a threshold.

106. A method as in claim 105 wherein the specified
pages are specified types of pages, and wherein non-
specified types of pages are sent without said limit.

107. A method as in claim 105 further comprising
10 allowing the user to read beyond the specified number of
pages after paying a fee.

108. An apparatus comprising:

a client computer, connected to a network, said client
computer operating to display a first image indicative of a
15 reduced resolution version of an image to be displayed, and
a second image indicative of an increased resolution
version of information to be displayed, said second image
comprising three-dimensional information, and

a process, running in said client computer, which first displays said first information, and second loads said second information while said first information is being loaded.

5 109. An apparatus as in claim 108 further comprising a network server which stores said images.

110. An apparatus as in claim 109 wherein said network server stores a reduced quality three-dimensional image and an increased quality three-dimensional image.

10 111. A method of manufacturing and selling products comprising:

at a manufacturer, designing packaging material to use for housing said product;

housing said product using said packaging material;

15 also forming an electronic version of said packaging material; and

selling said product to a distributor along with both said non-electronic and said electronic packaging material.

112. A method as in claim 111 wherein said selling
20 comprises displaying said product for sale over the Internet using said electronic packaging material.

113. A method as in claim 24 wherein said second resolution is a lower resolution than said first resolution.

114. A method as in claim 51, further comprising
5 enabling viewing the box from a plurality of different angles.

115. A method as in claim 91 wherein said information media includes video or audio-containing information.

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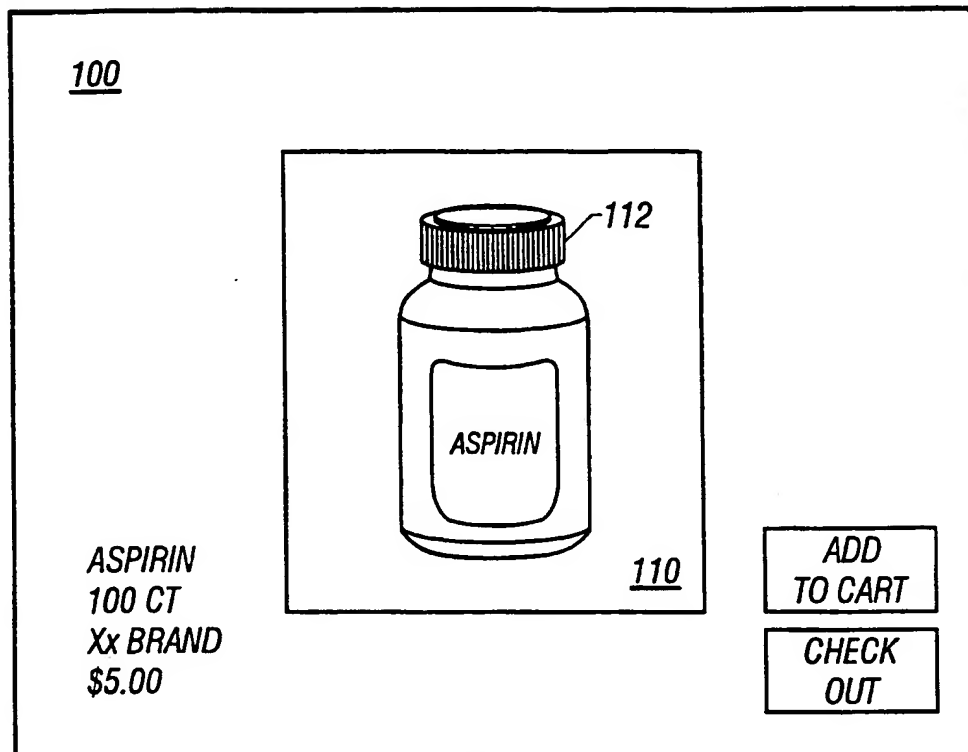


FIG. 1A

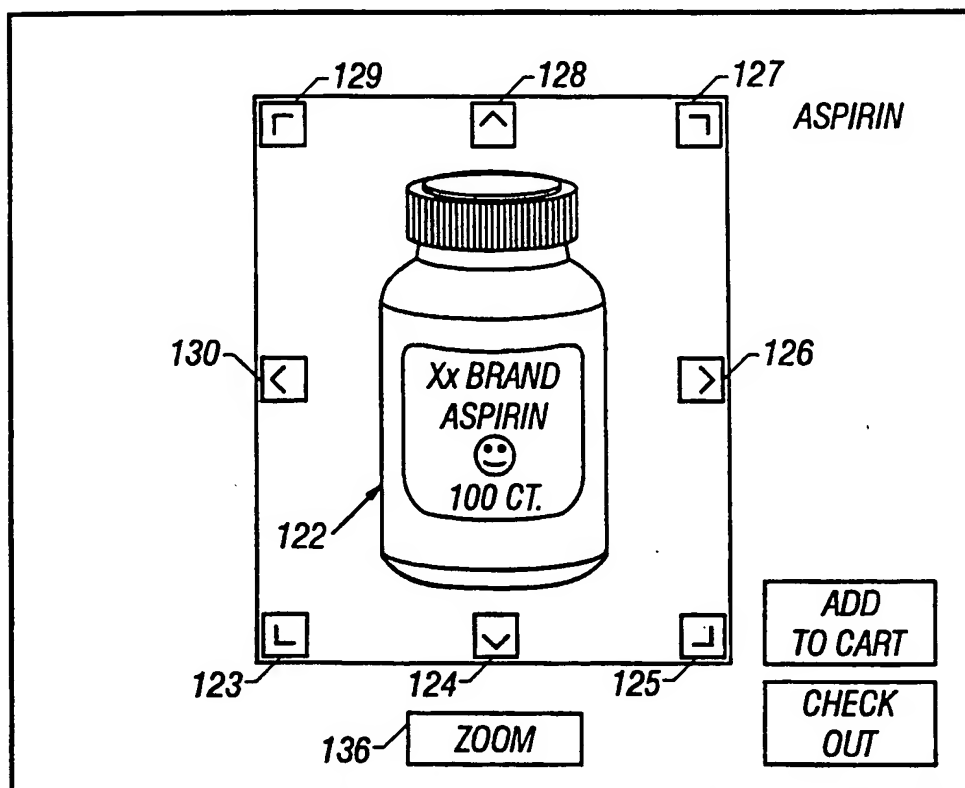


FIG. 1B

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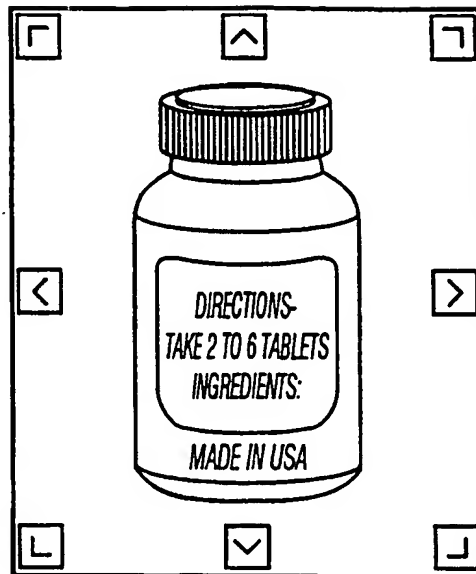


FIG. 1C

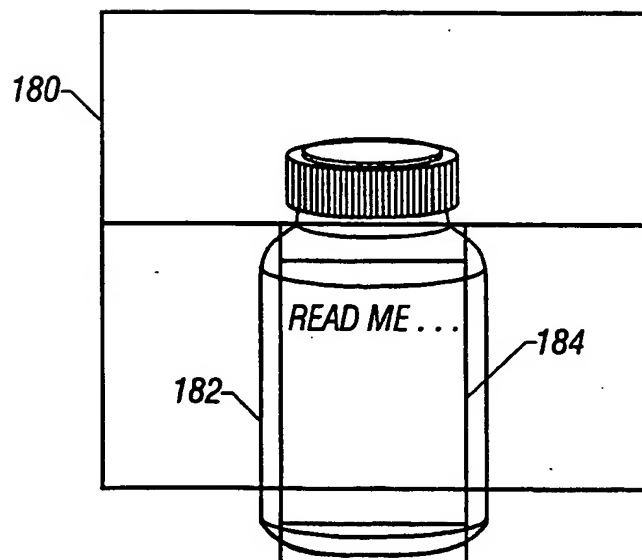


FIG. 1D

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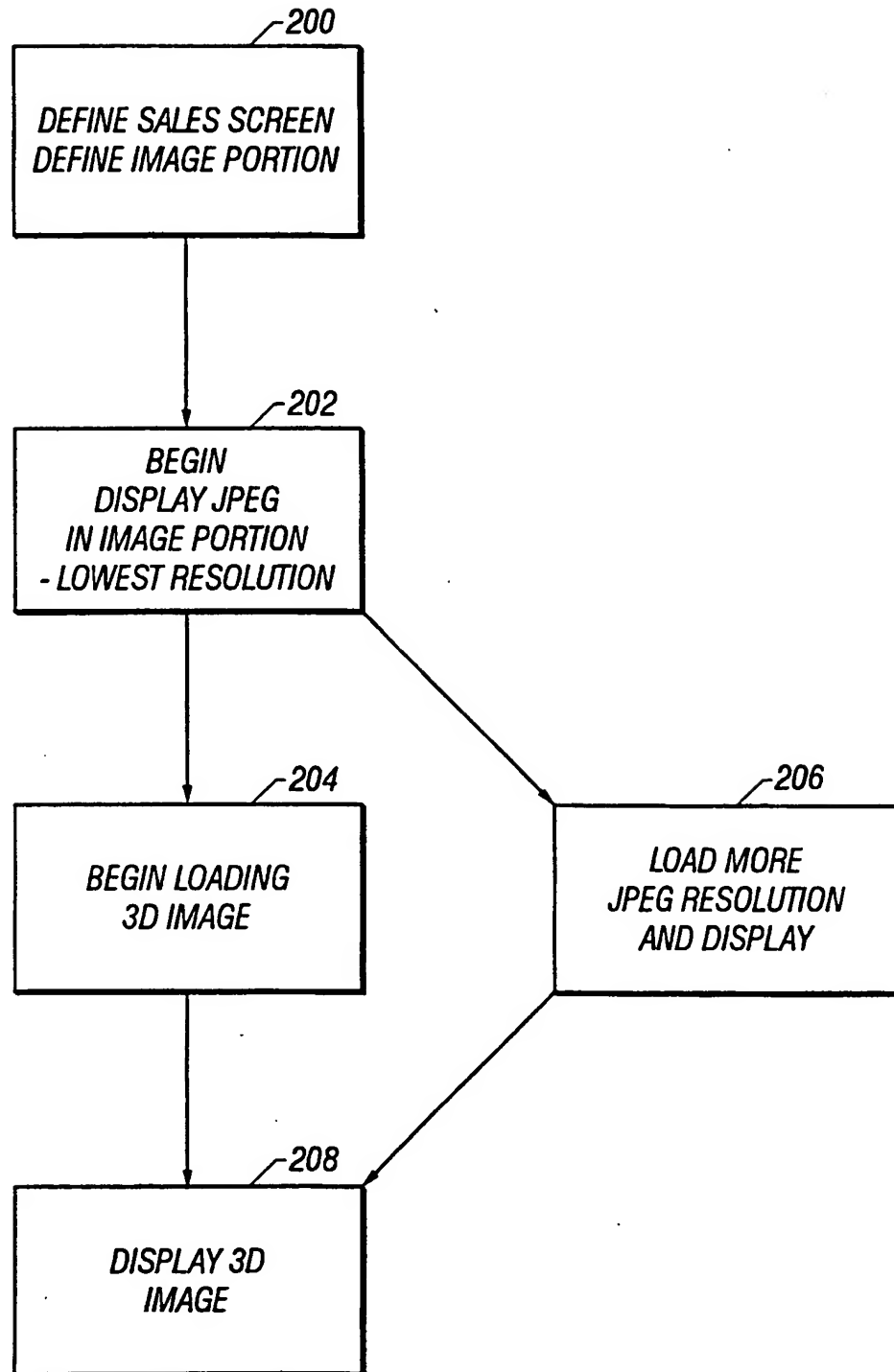
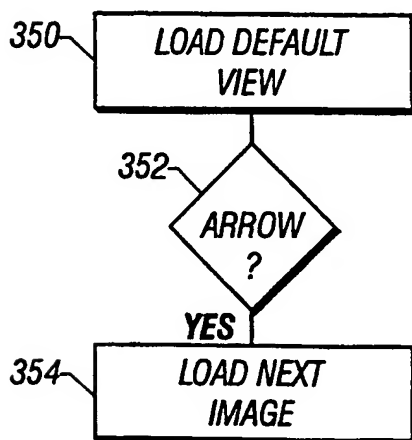
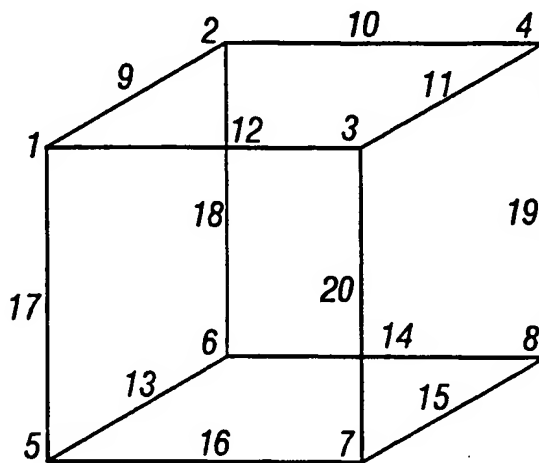
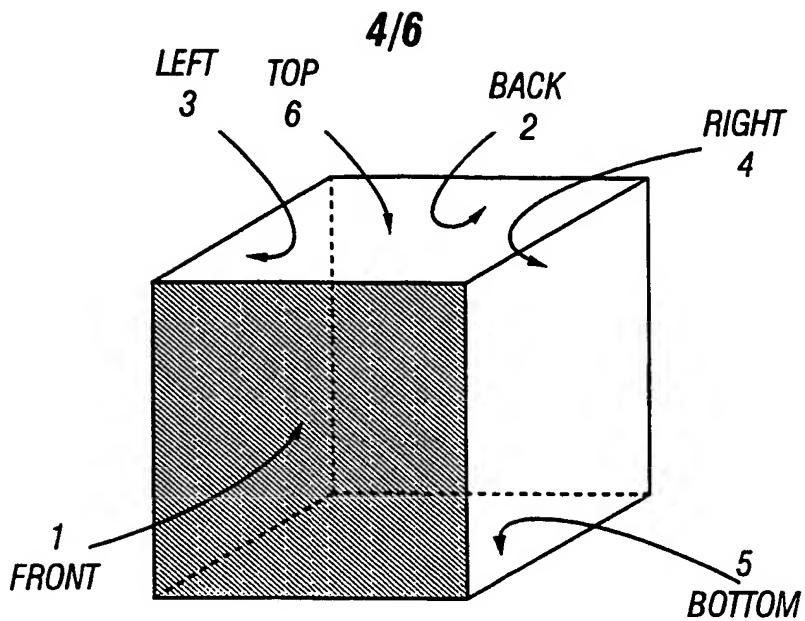


FIG. 2
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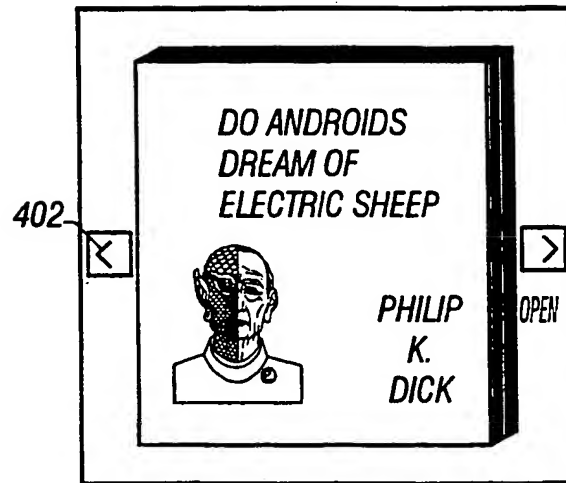


FIG. 4A

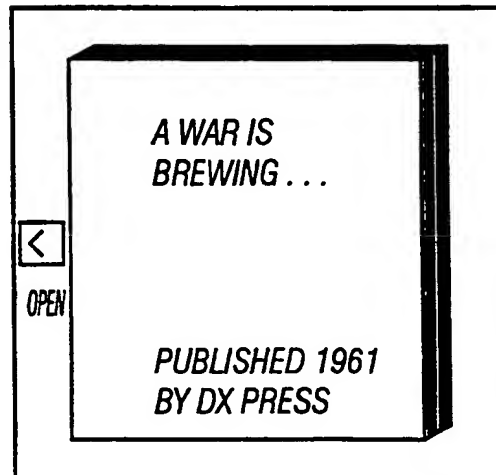


FIG. 4B

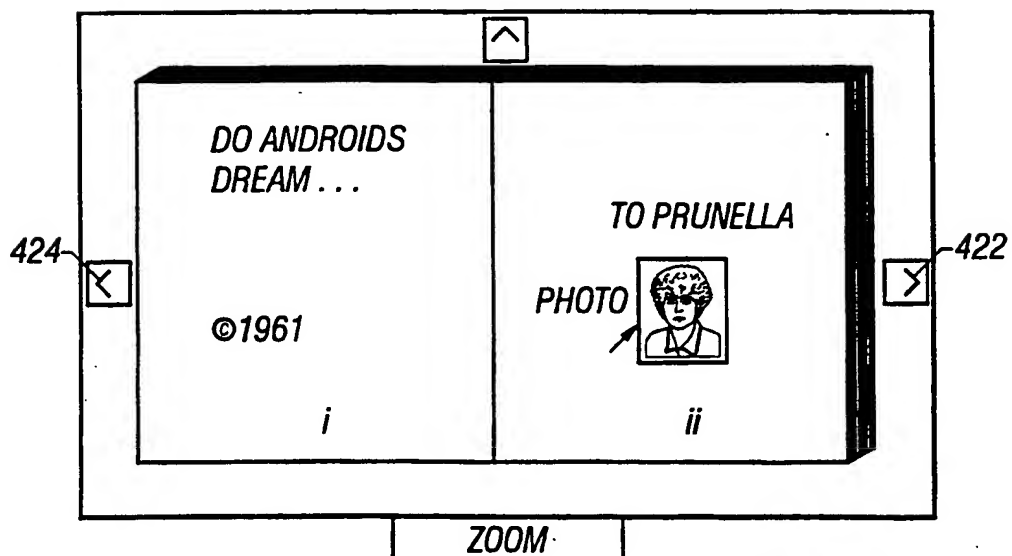


FIG. 4C

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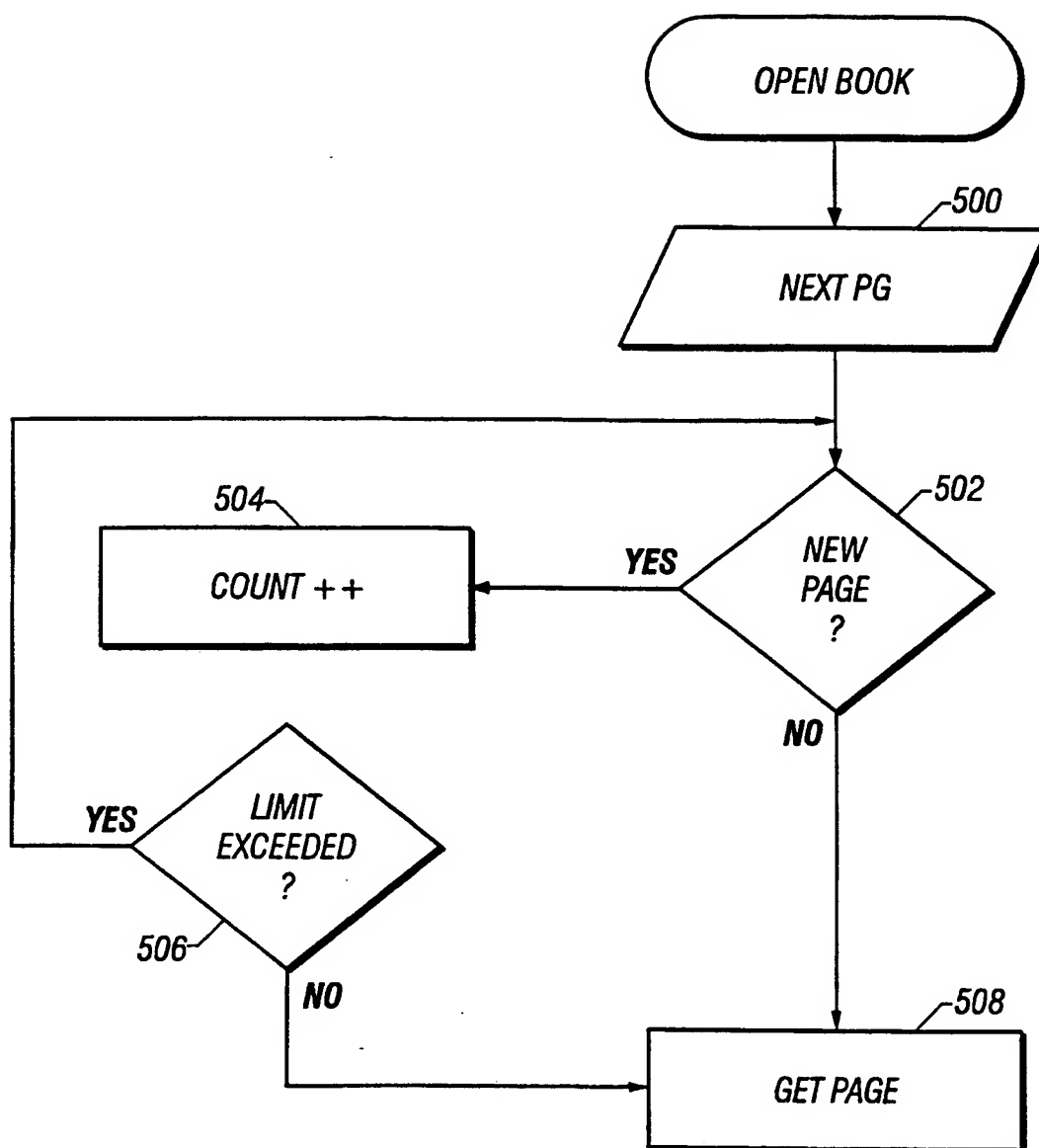


FIG. 5

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US00/26128

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) :G06F 17/30, 13/14; H04N 7/173

US CL :345/333, 335, 355, 356, 357

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 345/333, 335, 355, 356, 357

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
NONEElectronic data base consulted during the international search (name of data base and, where practicable, search terms used)
on-line shopping, display image, servers, client networking

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,848,399 A (BURKE) 08 December 1998, col. 4, lines 9-67.	1-115
Y,P	US 6,058,397 A (BARRUS et al) 02 May 2000, col. 8, lines 5-51.	1-115
A	US 5,850,352 A (MOEZZI et al) 15 December 1998.	1-115
A,P	US 5,930,501 A (NEIL) 27 July 1999.	1-115

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:	*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
A document defining the general state of the art which is not considered to be of particular relevance	*X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
E earlier document published on or after the international filing date	*Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	*A* document member of the same patent family
O document referring to an oral disclosure, use, exhibition or other means	
P document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 14 OCTOBER 2000	Date of mailing of the international search report 14 NOV 2000
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230	Authorized officer Cao (Kevin) Nguyen <i>James P. Matthews</i> Telephone No. (703) 305-3972

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